

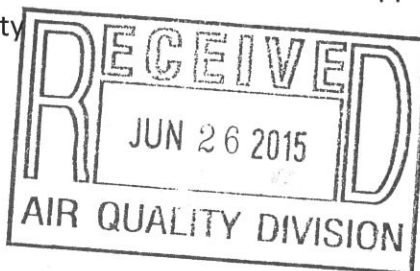


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June 19, 2015

NSR Program Manager / attn: O&G Production Facilities Permit Application  
Department of Environmental Quality  
Air Quality Division  
Herschler Building, 2-E  
122 West 25<sup>th</sup> Street  
Cheyenne, WY 82002



RE: Yates Petroleum Corporation  
Chapter 6 Section 2 Air Quality Permit Application  
**Justin Com 1TH**

Dear Program Manager:

Enclosed are one hard copy and one electronic copy of the Air Quality Permit Application for the facility named above, prepared on behalf of our client Yates Petroleum Corporation. This is a new single well production facility located in Campbell County, within the "Statewide Area" that is defined in the Chapter 6, Section 2 Oil and Gas Production Facilities Permitting Guidance.

The First Date of Production was March 30, 2015 making this application due by June 30, 2015. The application has been prepared in accordance with the September 2013 O&G Permitting Guidance.

Please contact me if additional information or clarification is needed.

Sincerely,

Cynthia Madison  
Project Engineer

Attachment  
CD

Reviewer Hmb  
cc: \_\_\_\_\_  
Modeler \_\_\_\_\_  
D.E. \_\_\_\_\_  
File A0001255  
IMP FID 26918



STATE OF WYOMING  
Department of Environmental Quality/Air Quality Division  
C6 S2 Air Quality Permit Application



## Yates Petroleum Corporation

### Justin Com 1TH

Latitude: 43.647684 Longitude: -105.582992  
NW NW Section 1, Township 42N, Range 73W  
Campbell County, WY

API Number 49-005-62315

**ORIGINAL**

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## Process Description

The Justin Com 1TH is a new horizontal Turner well that began producing on March 30, 2015. This well is located in Campbell County within the area specified as "Statewide" in the Chapter 6, Section 2 Oil and Gas Production Facilities Permitting Guidance (C6 S2 Guidance). It produces from a field designated as Wild Cat by the Wyoming Oil and Gas Conservation Commission.

This is an oil and natural gas production facility with equipment typical of the area. The well is pumped by an electric pumping unit. Fluids are produced from the tubing at approximately 300 PSIG and move through a flow line to an indirect heater with a 0.5 million BTU per hour (MMBTU/HR) burner. From the heater the fluids and gas move on to a two-phase separator. From here the gas is sent to sales and liquids are sent to a heater treater with a 1.0 MMBTU/HR burner, operating at approximately 120 °F and 45 PSIG. Gas off the treater is routed to sales and oil and water are piped to five 400-barrel (BBL) oil tanks and one 400-BBL water tank. Oil is sold via trucking and water is loaded into trucks for off-site disposal.

An electric pump recirculates oil and water back through the production equipment, when necessary.

Oil tank vapors are routed to a 48-INCH by 25-FOOT CIMARRON smokeless combustor for 98% destruction of the associated volatile organic compound (VOC) and hazardous air pollutant (HAP) components (see Pages 18-19). The combustor is equipped with a data recording system for continuous monitoring of the status of the pilot flame. Personnel are notified if no flame is detected.

There are twelve pneumatic process controllers that use/vent gas produced by the well. All are low or no-bleed devices:

- (1) no-bleed kill valve at the wellhead, shuts the well in if pressures outside of a set range are detected.
- (1) Kimray Gen II level controller that operates a pneumatic liquid dump valve on the separator (see Page 15)
- (4) low-bleed Kimray 312 SGT BP valves, two on the separator and two on the treater, control flow of gas to sales or to an emergency flare (see page 16)
- (6) no-bleed Asco electric/pneumatic solenoid valves, control gas flow to the main burners and pilots of the indirect heater, treater, combustor and flare (see Page 17).

There are no pneumatic pumps.

## Presumptive BACT

For "Statewide Area" facilities, flashing emissions containing greater than or equal to 10 tons per year (TPY) VOC must be controlled by at least 98% within 60-days of the First Date of Production.

All vapors from the five oil tanks are collected and routed to a 48-INCH by 25-FOOT CIMARRON combustor designed to operate smokeless and to reduce VOC emissions by at least 98%. It was installed prior to startup of the well on March 28, 2015 and is equipped with a pilot flame monitoring and data recording system.

Upon startup, all pneumatic controllers operating on natural gas must be low or no bleed or must be vented to a closed loop system.

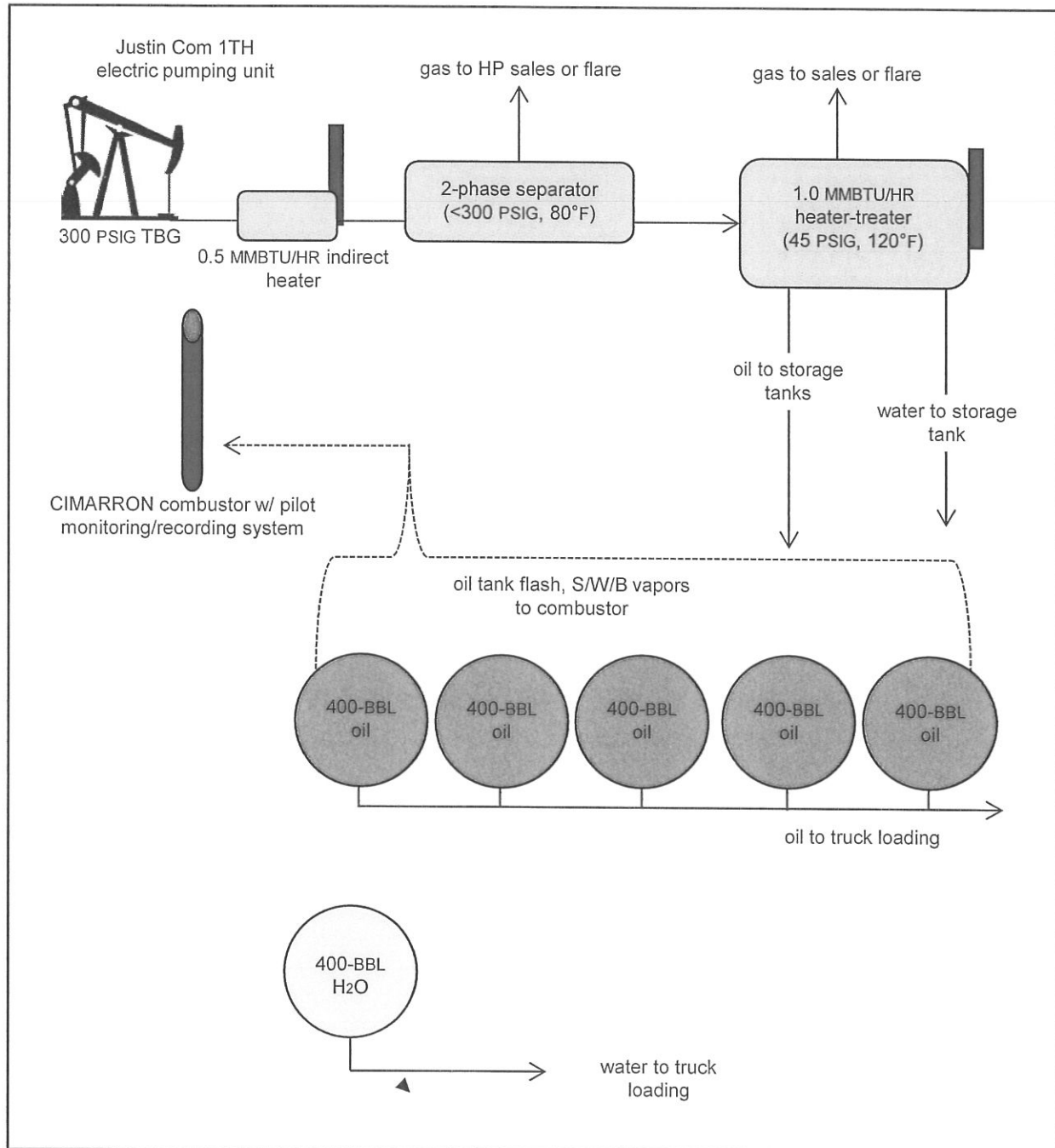
All twelve pneumatic controllers at this site are low or no-bleed devices.

There are no natural gas operated pneumatic pumps and no sources without Presumptive BACT requirements that emit  $\geq 8$  TPY of VOC or  $\geq 5$  TPY of HAP that would require a BACT analysis to be filed with this application.

All Presumptive BACT requirements specified in the C6 S2 Guidance for "Statewide Area" production facilities have been met.

## Process Diagram

Diagram does not represent actual scale or placement of equipment.



## Emission Calculations

### Flash & S/W/B

The total volume of vapors flashing from the oil tanks was metered for six days. Applying the volume of vapors to the total oil produced during the metering period yields an MCF/BBL factor (see Page 11). This factor was multiplied by the first year projected oil production to determine the total volume of tank vapors during the first year. Using measured properties of the tank vapors the first year VOC and HAP emissions were calculated using a mass balance equation (below).

The tank vapor flowrate was metered using a FOX Thermal Mass Flow Meter, calibrated for the specific makeup of the average Turner production tank vapors. The meter was inserted in the tanks' vent line per the manufacturer's recommendation and the vapors were metered for six days while concurrent oil production was recorded.

Date	oil (BBL)	Cumulative Meter Reading (MCF)
4/24		3520
4/25	360	
4/26	441	
4/27	564	
4/28	511	
4/29	526	
4/30	498	3602
<b>Total</b>	<b>2900</b>	<b>82</b>

$$82 \text{ MCF}/2900 \text{ BBL} = \mathbf{0.028276 \text{ MCF/BBL}}$$

# Turner tank vapor properties

Molecular WT: **43.3244 LB/LB-MOL**  
VOC WT Percent: **79.4801 %**  
HAP WT Percent: **1.2625 %**  
Heat Content: **1925 BTU/SCF**

Projected Production: **412 BOPD**

412 BBL/DAY (0.028276 MCF/BBL)(43.3244 LB/LB-MOL)(1 LB-MOL/379 SCF)(1000 SCF/MCF)(1 TON/2000 LB)(365 DAY/YR) = **243.04 TPY** total tank vapors

0.028276 MCF/BBL (214 BBL/DAY) (365 DAY/YR) = **2208.64 MCF/YR** tank vapors

2208.64 MCF/YR (1000 SCF/MCF) (YR/365 DAY) = **6051.06 SCF/DAY**

6051.06 SCF/DAY (DAY/24 HR) (HR/60 MIN) = **4.20 SCF/MIN**

243.04 TONS/YR (79.4801/100) = **193.17 TPY VOC**  
243.04 TONS/YR (1.2625/100) = **3.07 TPY HAP** } *UNCONTROLLED*

First year controlled VOC and HAP emissions are based on 98% control efficiency of the CIMARRON combustor.

193.17 TPY VOC (0.02) = **3.86 TPY VOC**  
3.07 TPY HAP (0.02) = **0.06 TPY HAP** } *CONTROLLED*

Nitrogen oxides (NO<sub>x</sub>) and carbon monoxide (CO) emissions from combustion of the tank vapors are calculated using the AP-42 emission factors for flares from the C6 S2 Guidance (0.14 LB NO<sub>x</sub>/MMBTU & 0.035 LB CO/MMBTU), the metered tank vapor flow rate and the average heat content of Turner production tank vapors.

0.14 LB NO<sub>x</sub>/MMBTU (2208.64 MCF/YR)(1925 BTU/SCF)(1000 SCF/MCF)(MMBTU/10<sup>6</sup> BTU)(TON/2000 LB)  
= **0.30 TPY NO<sub>x</sub>**

0.035 LB CO/MMBTU (2208.64 MCF/YR)(1925 BTU/SCF)(1000 SCF/MCF)(MMBTU/10<sup>6</sup> BTU)(TON/2000 LB)  
= **0.07 TPY CO**

## Burners

NO<sub>x</sub> and CO emissions from the 0.5 MMBTU/HR indirect heater and the 1.0 MMBTU/HR treater burner were calculated using AP-42 emission factors (100 LB NO<sub>x</sub>/MMCF and 84 LB CO/MMCF) and the average heat content of Turner produced gas (see Page 13). For the purposes of this application it is assumed the burners operate 8760 hours annually.

Turner Produced Gas Heat Content: **1853 BTU/SCF**

1.5 MMBTU/HR (100 LB NO<sub>x</sub>/MMCF) (1853 BTU/1020 BTU) (1 SCF/1020 BTU) (8760 HOURS/YR)  
(TON/2000 LB) = **1.17 TPY NO<sub>x</sub>**

1.5 MMBTU/HR (84 LB CO/MMCF) (1853 BTU/1020 BTU) (1 SCF/1020 BTU) (8760 HOURS/YEAR)  
(TON/2000 LB) = **0.98 TPY CO**

## Pneumatic Equipment

Emissions from pneumatic equipment are calculated using the vent rates of the devices and average properties of Turner produced gas (see Page 14).

Molecular Weight %: **32.9706 LB/LB-MOL**

VOC Weight %: **60.4780**

HAPs Weight %: **0.2054**

One no-bleed pneumatic **kill valve** is used to shut the well in when pressures that are outside of a set operating range are detected. Activation of the valve would be a rare occurrence. This is a no-bleed valve and associated emissions should be considered insignificant.

One **Kimray Gen II level controller** activates a liquid dump valve on the separator. As shown on Page 15, this controller vents up 0.4 SCFD when operating in the snap-acting (no-bleed) mode and 0.6 SCFD when operating in the throttling mode. The maximum rate is used in the calculation.

$(0.6 \text{ SCF/DAY})(26.814 \text{ LB/LB-MOL})(1 \text{ LB-MOL}/379 \text{ SCF})(\text{TON}/2000 \text{ LB})(365 \text{ DAY/YR}) = 0.01 \text{ TPY total}$

0.01 TPY (60.4780/100) = **0.00 TPY VOC**

0.01 TPY (0.2054/100) = **0.00 TPY HAP**

Four non-bleed **Kimray Model 312 SGT BP back pressure valves** (see Page 16) maintain steady pressure on the treater and separator. Two valves on each vessel control the flow of gas off the vessels to the gas sales lines during normal operations. Another two valves on each vessel control the flow of gas to a flare during emergency or upset conditions. A diaphragm inside the back pressure valve is exposed to the gas phase in the vessel. Increasing gas pressure in the vessel due to incoming production causes the diaphragm to rise. This action raises a pilot plug that opens the back pressure valve, allowing the vessel gas to flow through the valve. Once the vessel pressure decreases to a set point the diaphragm lowers, the pilot plug closes and vessel gas stops flowing to the sales line. Several cubic inches of gas that were pushing against the diaphragm are vented. The frequency of valve activation/venting depends on varying gas production rates. To estimate emissions associated with produced gas vented by the valves it is assumed each valve activates 100 times per day. Emissions associated with emergency operation of the valves are not considered.

$$4(200 \text{ IN}^3/\text{DAY})(32.9706 \text{ LB/LB-MOL})(1 \text{ LB-MOL}/379 \text{ SCF})(0.00115741 \text{ SCF/IN}^3)(\text{TON}/2000 \text{ LB}) \\ (365 \text{ DAY/YR}) = \underline{\underline{0.01 \text{ TPY total vapors}}}$$

The associated VOC and HAP emissions are insignificant at <<0.01 TPY.

The six **ASCO electric/pneumatic solenoid valves** turn the gas supply on/off to the main burners and pilots of the indirect heater, treater and combustor. Gas pressure causes a spring or piston to rise. This activates an electric coil which sends a signal to a process valve, causing it to open or close. The gas that raised the spring is vented once the corresponding valve is actuated. The volume of gas that is vented is tiny as the entire solenoids themselves are only several inches in length (see Page 17). Associated VOC and HAP emissions should be considered too small to measure.

## Fugitives

The typical component count at a Yates single well production facility, the fugitive emission factors listed in the C6 S2 Guidance and properties of the Turner produced gas were used to estimate fugitive emissions.

### Emission Factors

Equipment Type	Gas	Light Oil	Water/Light Oil
	LB THC/day/component	LB THC/day/component	LB THC/day/component
Connector	0.0110	0.0110	0.0058
Flange	0.0210	0.0058	0.0002
Open line	0.1100	0.0740	0.0130
Other	0.4700	0.4000	0.7400
Pump	0.1300	0.6900	0.0013
Valve	0.2400	0.1300	0.0052

### Component Count and Service Type

Equipment Type	Gas			Light Oil			Water/Light Oil		
	#	LB THC/day	TPY	#	LB THC/day	TPY	#	LB THC/day	TPY
Connector	30	0.3300	0.0600	60	0.6600	0.1200	30	0.1740	0.0300
Flange	10	0.2100	0.0400	36	0.2088	0.0400	30	0.0006	0.0000
Open line	0	0.0000	0.0000	0	0.0000	0.0000	0	0.0000	0.0000
Other	4	1.8800	0.3400	10	4.0000	0.7300	10	7.4000	1.3500
Pump	0	0.0000	0.0000	1	0.6900	0.1259	0	0.0000	0.0000
Valve	20	4.8000	0.8800	50	6.5000	1.1900	20	0.1040	0.0200
Subtotals			1.32			2.21			1.40

Total THC = **4.93 TPY**

fugitive VOC =  $4.93 * 60.4780/100 = \underline{\underline{2.98 \text{ TPY}}}$

fugitive HAP =  $4.93 * 0.2054/100 = \underline{\underline{0.01 \text{ TPY}}}$

## Truck Loading

Truck loading emissions were estimated using the method described in the C6 S2 Guidance, the projected daily oil production rate and properties of the Turner oil tank vapors (see Page 14).

projected BOPD → BBL/YR	412 * 365 = 150,380 BBL/YR
saturation factor (submerged loading, normal svc.)	0.6 <b>S</b>
true vapor pressure of oil @ T = 50°F	2.3 <b>P</b>
molecular weight of Turner tank vapors (LB/LB-MOL)	43.3244 <b>M</b>
temperature (°R)	510 <b>T</b>
VOC content of Turner tank vapors	79.4801 WT%
HAP content of Turner tank vapors	1.2625 WT%

$$LL = 12.46 * S * P * M/T = 12.46 * 0.6 * 2.3 * 43.3244/510 = \mathbf{1.46 \text{ LB/1000 GAL}}$$

$$1.46 \text{ LB/1000 GAL loaded (42 GAL/BBL) (150,380 BBL/YR) (TON/2000 LB) = } \mathbf{4.61 \text{ TPY total losses}}$$

$$4.61 \text{ TPY (79.4801/100) = } \mathbf{3.66 \text{ TPY VOC}}$$

$$4.61 \text{ TPY (1.2625/100) = } \mathbf{0.06 \text{ TPY HAP}}$$

## Emission Summary

### Total Estimated Uncontrolled Emissions (Tons Per Year)

EMISSION SOURCE	VOCs	total HAPs	NO <sub>x</sub>	CO	SO <sub>2</sub>	H <sub>2</sub> S
oil tanks	193.17	3.07				
burners			1.17	0.98		
pneumatics	0.01	0.00				
fugitives	2.98	0.01				
truck loading	3.66	0.06				
TOTAL	199.82	3.14	1.17	0.98		

### Total Estimated Controlled Emissions (Tons Per Year)

EMISSION SOURCE	VOCs	total HAPs	NO <sub>x</sub>	CO	SO <sub>2</sub>	H <sub>2</sub> S
oil tanks	3.86	0.06	0.3	0.07		
burners			1.17	0.98		
pneumatics	0.01	0.00				
fugitives	2.98	0.01				
truck loading	3.66	0.06				
	10.51	0.13	1.47	1.05		

### Hazardous Air Pollutants (TPY)

Complete this section for each emissions source if TOTAL HAPs from that source are 9 TPY or greater.					
SOURCE	Benzene	Toluene	Ethyl-Benzene	Xylenes	Other

		BOPD		BWPD	MCFD
3/30/2015	Justin Com 1TH	1224		1198	0
3/31/2015		749		748	0
4/1/2015		366		190	40
4/2/2015		567		436	765
4/3/2015		1100		503	1326
4/4/2015		1040		418	1360
4/5/2015		941		261	1190
4/6/2015		1223		454	1279
4/7/2015		625		60	610
4/8/2015		597		130	1360
4/9/2015		869		180	1149
4/10/2015		863		254	1081
4/11/2015		650		99	971
4/12/2015		741	Average oil production during intitial 30 days = 687 BPD  687 * 0.6 = <b>412 BOPD</b>	140	1063
4/13/2015		616		120	939
4/14/2015		688		94	876
4/15/2015		658		104	1027
4/16/2015		715		104	1042
4/17/2015		602		109	1007
4/18/2015		762		112	1043
4/19/2015		468		77	1142
4/20/2015		735	tank vapor metering	114	1043
4/21/2015		499		105	1014
4/22/2015		769		115	976
4/23/2015		503	cumulative MCF	53	938
4/24/2015		501	3520	52	896
4/25/2015		360		17	749
4/26/2015		441		33	703
4/27/2015		564		80	102
4/28/2015		511		37	728
4/29/2015		526		47	851
4/30/2015		498	3602	52	863
TOTALS:     82 MCF/2900 BO = <b><u>0.028276 MCF/BBL</u></b>					

Component	K-Bar 27H	Moore 79H	Moore 81H	Moore 82H	Mustang 19H	Moore 84H	Groves 51H	Ludington Com 15H	Average
	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%	wt%
Carbon Dioxide	0.6492	0.5852	1.1552	1.8523	0.6690	0.7903	1.2075	1.4757	1.0481
H <sub>2</sub> S	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Nitrogen	0.0320	8.9894	4.8512	4.3214	0.4999	0.1680	1.1336	7.2692	3.4081
Methane	1.9352	1.9418	4.1097	6.6755	3.1989	3.9265	6.1881	7.2289	4.4006
Ethane	8.5564	8.2028	10.2483	12.5137	11.6886	9.7437	14.9849	11.8254	10.9705
Propane	37.8345	34.1883	35.9667	36.9264	33.3163	46.3296	40.8094	36.8050	37.7720
Isobutane	8.1479	6.7332	7.0443	6.9038	7.3050	7.2015	7.1525	6.1974	7.0857
n-Butane	24.9557	20.2933	20.3635	18.0651	21.6597	20.1437	18.1302	16.9694	20.0726
Isopentane	6.3331	5.3242	5.1285	4.2093	6.4215	4.2630	4.0643	3.8054	4.9437
n-Pentane	6.3636	5.5221	5.1567	3.9246	6.6412	3.8951	3.5349	3.6769	4.8394
Cyclopentane	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-Hexane	1.2502	1.4112	1.0935	0.7723	1.8814	0.7624	0.6385	0.6674	1.0596
Cyclohexane	0.2972	0.5275	0.3377	0.2803	0.7815	0.2446	0.2029	0.1933	0.3581
Other Hexanes	2.3775	2.3902	2.0291	1.4707	2.9521	1.4470	1.2464	1.3014	1.9018
Heptanes	0.7570	1.0344	0.7491	0.6154	1.5142	0.5896	0.3847	0.4708	0.7644
Methylcyclohexane	0.1591	0.4864	0.2302	0.2370	0.7090	0.2244	0.1498	0.1577	0.2942
2,2,4 Trimethylpentane	0.0955	0.1922	0.1165	0.1007	0.1569	0.0957	0.0472	0.0772	0.1102
Benzene	0.0502	0.0657	0.0492	0.0342	0.1423	0.0358	0.0266	0.0330	0.0546
Toluene	0.0224	0.0397	0.0260	0.0191	0.0936	0.0186	0.0129	0.0212	0.0317
Ethylbenzene	0.0026	0.0020	0.0016	0.0009	0.0018	0.0007	0.0008	0.0022	0.0016
Xylenes	0.0077	0.0039	0.0062	0.0024	0.0073	0.0013	0.0044	0.0052	0.0048
C8+ Heavies	0.1730	0.3194	0.1857	0.1267	0.3598	0.1185	0.0804	0.1221	0.1857
Subtotal	100.0000	98.2529	98.8489	99.0518	100.0000	100.0000	100.0000	98.3048	99.3073
Oxygen	0.0000	1.7471	1.1511	0.9482	0.0000	0.0000	0.0000	1.6952	0.6927
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Molecular Weight (LB/LB-MOL)	48.0150	44.5500	43.1820	40.3470	46.487	44.128	40.833	39.053	43.3244
Sat Gross BTU/Real CF	1794.2	1726.4	1932.2	1851.1	1959.3	1852.64	2285.1	1999.8	1925
Sample Temperature (°F)	90	92	130	117	107	107	47	51	107
Sample Pressure (PSIG)	30	24	32	38	22	29	30	30	29
						wt% HAP	1.26325		
						wt% VOC	79.4801		

## Turner Produced Gas - Average Composition

Component	Groves 49H	Moore 81H	K-Bar State 27	Groves 51H	Moore 82H	Average
	mol%	mol%	mol%	mol%	mol%	mol%
Carbon Dioxide	2.0927	2.2388	1.9124	1.8238	2.5066	2.1149
H <sub>2</sub> S	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Nitrogen	0.1563	0.2444	0.1468	0.1710	0.1971	0.1831
Methane	41.7316	47.9150	37.3580	41.1766	36.5392	40.9441
Ethane	20.2040	16.1143	18.9742	18.8829	16.3441	18.1039
Propane	23.7101	21.1726	25.3043	23.2926	25.9849	23.8929
Isobutane	2.5694	2.4092	2.8344	2.7594	3.5652	2.8275
n-Butane	6.2815	6.5749	8.1908	7.4797	9.5741	7.6202
Isopentane	1.1786	1.2059	1.6209	1.5229	1.9216	1.4900
n-Pentane	1.0483	1.1872	1.6958	1.4820	1.8607	1.4548
Cyclopentane	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-Hexane	0.1989	0.2140	0.3732	0.3148	0.3395	0.2881
Cyclohexane	0.0900	0.0716	0.1417	0.1159	0.1286	0.1096
Other Hexanes	0.3466	0.3875	0.6087	0.5335	0.0618	0.3876
Heptanes	0.2320	0.1349	0.4927	0.2235	0.2225	0.2611
Methylcyclohexane	0.0707	0.0478	0.1328	0.0938	0.0868	0.0864
2,2,4 Trimethylpentane	0.0172	0.0194	0.0434	0.0227	0.0325	0.0270
Benzene	0.0127	0.0119	0.0258	0.0205	0.0220	0.0186
Toluene	0.0115	0.0074	0.0252	0.0202	0.0144	0.0157
Ethylbenzene	0.0007	0.0005	0.0022	0.0012	0.0008	0.0011
Xylenes	0.0027	0.0021	0.0058	0.0059	0.0023	0.0038
C8 <sup>+</sup> Heavies	0.0445	0.0406	0.1109	0.0571	0.0395	0.0585
Subtotal	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
Oxygen	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
Sat Gross BTU/Real CF	1794.2	1726.4	1932.2	1851.1	1959.3	<b>1852.6</b>
Molecular Weight (LB/LB-MOL)	31.8730	30.7210	34.3360	32.8060	35.1170	<b>32.9706</b>
Sample Temperature (°F)	90	92	130	117	107	107
Sample Pressure (PSIG)	30	24	32	38	22	29

## Turner Produced Gas - VOC & HAP Content

Component	mol %	M.W.	(mol % X MW)/100	wt% of i
H2S	0.0000	34.08	0	0
O2	0.0000	32.00	0	0.0000
CO2	2.1149	44.01	0.9308	0.0283
N2	0.1831	28.02	0.0513	0.0016
Methane C1	40.9441	16.04	6.5674	0.1998
Ethane C2	18.1039	30.07	5.4438	0.1656
Propane C3	23.8929	44.09	10.5344	0.3204
i-Butane i-C4	2.8275	58.12	1.6434	0.0500
n-Butane n-C4	7.6202	58.12	4.4289	0.1347
i-Pentane iC5	1.4900	72.15	1.0750	0.0327
n-Pentane nC5	1.4548	72.15	1.0496	0.0319
n-Hexane n-C6	0.2881	86.17	0.2482	0.0076
Cyclohexane	0.1096	84.16	0.0922	0.0028
other Hexanes	0.3876	85.00	0.3295	0.0100
Heptanes	0.2611	100.20	0.2616	0.0080
Methylcyclohexane	0.0864	98.18	0.0848	0.0026
2,2,4 Trimethylpentane	0.0270	114.22	0.0309	0.0009
Benzene	0.0186	78.11	0.0145	0.0004
Toluene	0.0157	92.14	0.0145	0.0004
Ethylbenzene	0.0011	106.17	0.0011	0.0000
Xylenes	0.0038	106.17	0.0040	0.0001
C8+ Heavies	0.0585	120.00	0.0702	0.0021
nonanes	0.0000	128.26	0.0000	0.0000
C <sub>10</sub> +	0.0000	142.29	0.0000	0.0000
hydrogen	0.0000	1.01	0.0000	0.0000
Helium	0.0000	4.00	0.0000	0.0000
water	0.0000	18.02	0.0000	0.0000
	100			1.0000
HAP			0.2054	WT%
VOC			60.4780	WT%



## FLOAT OPERATED LEVEL CONTROLLER

GEN II

### APPLICATIONS:

Liquid level controller for oil and gas separators, water knock-outs, gas scrubbers and accumulators.

Liquid interface control in fluids of 0.20 minimum differential specific gravities with the standard displacer. Other displacers are available to control liquid interface to 0.10 minimum specific gravities.

Operates any diaphragm motor valve requiring not more than 30 psig diaphragm pressure. See sections E1, E2, E3, and E4 for diaphragm operated motor valves.

### FEATURES:

Compact design  
Snap or throttle control in one pilot  
Intermittent bleed pilot (Preferred EPA Natural Gas Star BMP)  
Bleed Rate (@ 30 psi - 0.4 scfd snap; 0.6 scfd throttle)  
Conditional NACE MR0175 Wetted Parts  
Low Temp Process Seal (Std.) (-50°F to 300°F)  
Powder coated enclosure  
Vibration tough  
No vent gas in Enclosure  
PVC Displacer (Std.) (4000 psi, 175°F);  
316 SS Displacer (1500 psi, 350°F)  
40 micron supply gas filter  
1/4" NPT vented pilot  
Simple pilot removal

### SUPPLY PRESSURE:

5 to 30 psig

### OPERATING PRESSURE:

0 to 4000 psig

### OPERATION:

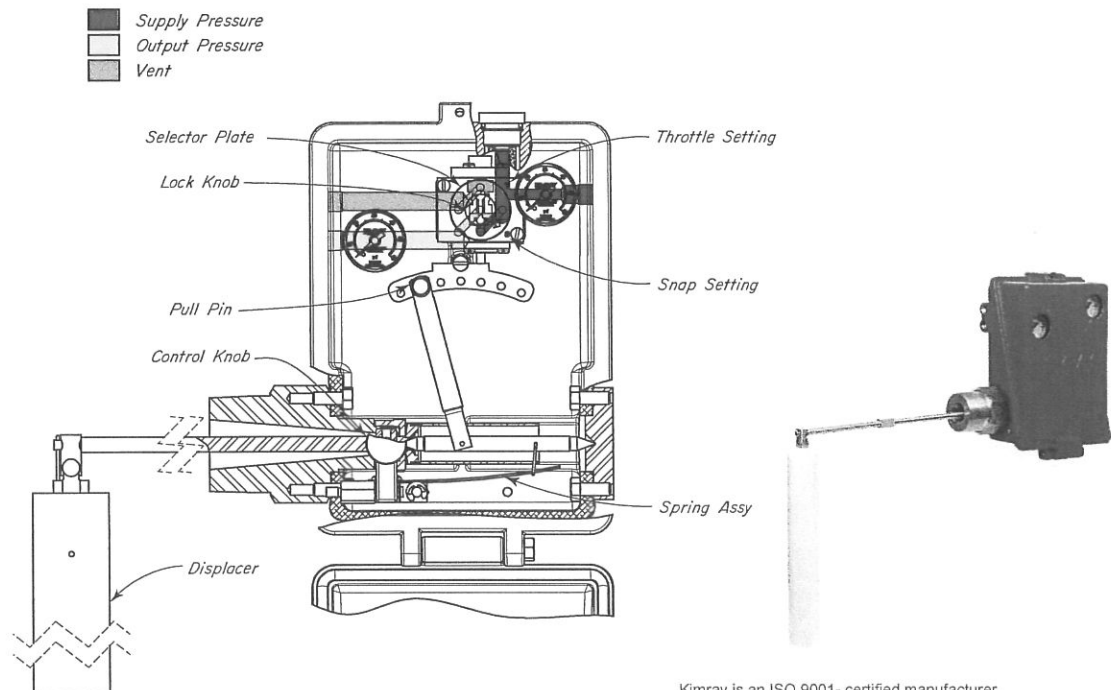
The GEN II Side Mount Liquid Level Controller consists of a DISPLACER for monitoring the changing liquid level, a SPRING for counterbalancing the weight of the DISPLACER, a WAGGLE ARM to transmit DISPLACER movement, a CASE upon which the controller mechanism is mounted, a 30 psig PILOT, a LINK and TANGENT ARM for setting the pilot sensitivity and direct/indirect action of the controller.

The color cross section of the pilot is shown identifying the supply, output and vent connections. In SNAP SERVICE the SELECTOR PLATE is position to the "S". To operate a Pressure Opening Motor Valve, the PULL PIN is place in the outer most hole of the TANGENT ARM right of the PIVOT. As the vessel liquid rises to partially submerge the DISPLACER, the displaced volume of liquid causes the counterbalance spring to exert a downward force at the end of the WAGGLE ARM HOUSING. The resulting downward movement of the LINK moves the TANGENT ARM downward from the ACTUATOR of the PILOT. The generated force of the DISPLACER continues until it activates and SNAPS the PILOT on. YELLOW OUTPUT pressure opens the Pressure Opening Motor Valve allowing the vessel liquid to drain.

As the vessel liquid lowers, the DISPLACER flexes the COUNTERBALANCE SPRING, causing an upward force. The WAGGLE ARM transmits the action through the linkage to the ACTUATOR on the PILOT. The force on the ACTUATOR of the PILOT continues to increase until the PILOT SNAPS off. The YELLOW OUTPUT pressure is vented through the PILOT allowing the Motor Valve to close.

The TANGENT ARM can be adjusted to increase or decrease the SNAP RANGE from 5" to 10" in water. Moving the PULL PIN inward will increase the SNAP RANGE.

For THROTTLE mode the LOCK KNOB is loosened and the SELECTOR PLATE is moved from the "S" position to the "T" position. The PULL PIN is placed left of the PIVOT for a Pressure Open Motor Valve and right of the PIVOT for a Pressure Close Motor Valve.



Kimray is an ISO 9001- certified manufacturer.



## PRESSURE REGULATORS

### GAS BACK PRESSURE

#### APPLICATION:

Vent lines on oil separators, flow treaters, compressor stations, gas gathering systems.

#### PRESSURE RANGE:

Ductile Iron: 5 psig to 125 psig  
Ductile Iron: 10 psig to 280 psig  
Steel: 10 psig to 280 psig

#### CAPACITY:

Refer to Table of Contents.

#### OPERATION:





The Pilot Assembly and Motor Valve Stem Assembly (Crosshatched) are the only moving units in the regulator. The PILOT PLUG consists of two stainless balls rigidly connected together. The upper seat for the PILOT PLUG is the Motor Valve Diaphragm Pressure inlet (Red to Yellow). The lower seat for the PILOT PLUG is the pressure vent (Yellow to Atmosphere).

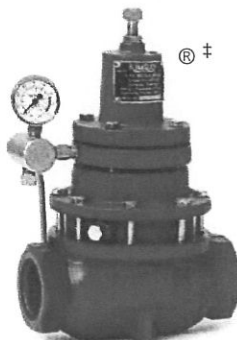
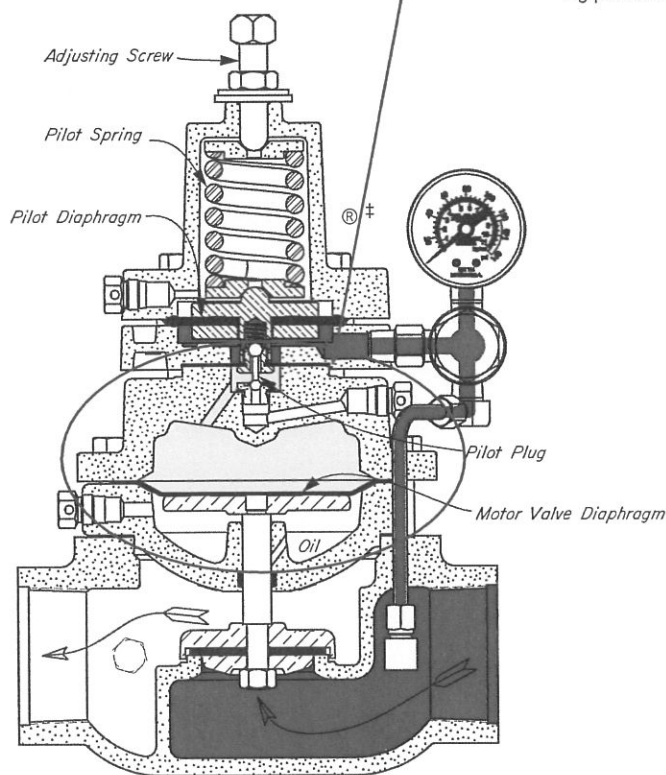
The PILOT SPRING in the bonnet loads the upper side of the Pilot Assembly and is opposed on the underside by Upstream Pressure (Red).

Assume the PILOT SPRING is compressed with the ADJUSTING SCREW for a set pressure greater than the Upstream Pressure (Red). The Pilot Assembly is forced downward by the PILOT SPRING. The lower seat for the PILOT PLUG (Yellow to Atmosphere) is closed and the upper seat for the PILOT PLUG (Red to Yellow) is open. This lets full Upstream Pressure (Red) load the motor valve. The area of the MOTOR VALVE DIAPHRAGM is twice the area of the motor valve seat, assuring a positive shut-off.

As the Upstream Pressure (Red) increases to the set pressure, the Pilot Assembly moves upward against the PILOT SPRING to first close the upper seat (Red to Yellow) and open the pressure vent (Yellow to Atmosphere). As the Motor Valve Diaphragm Pressure (Yellow) is decreased, the Upstream Pressure (Red) acting under the motor valve seat, opens the valve. With relief of Upstream Pressure (Red) through the motor valve, the Pilot Assembly assumes a position in which both seats of the PILOT PLUG are closed.

The intermittent bleed pilot, three-way valve action of the PILOT PLUG against its seat adjusts the Motor Valve Diaphragm Pressure (Yellow), repositioning the Motor Valve Stem Assembly to accommodate any rate of flow. The rapid but stable repositioning produces a true throttling action.

-  Pilot Assembly
-  Motor Valve Stem Assembly
-  Upstream Pressure
-  Motor Valve Diaphragm Pressure



## ASCO 2-Way Valve Operation

Two-way solenoid valves have one inlet and one outlet, and are used to permit and shut off fluid flow

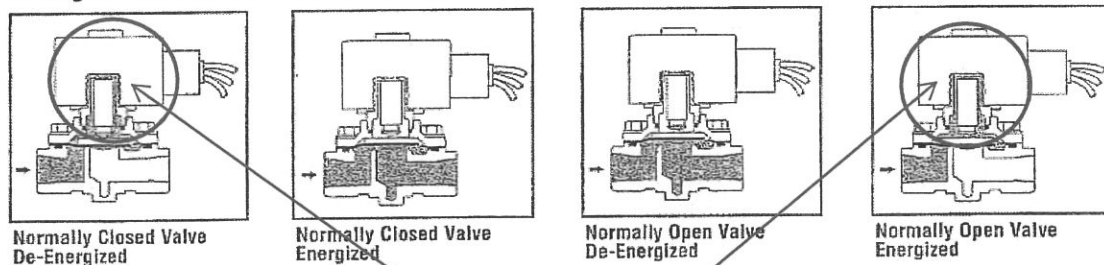
### Two Types of Operations

Normally Closed (NC) – Fluid is shut off when the coil is de-energized, flows through the valve when the coil is energized.

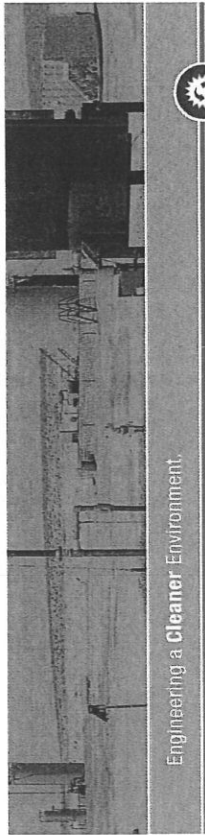
Normally Open (NO) – Fluid flows through the valve when the coil is de-energized, shuts off when the coil is energized.

Internally Piloted – These valves use line pressure to assist operation. When the coil is de-energized (on a Normally Closed valve), the pilot orifice is closed and line pressure is applied to the top of the piston or diaphragm through the bleed orifice, closing the valve. When the coil is energized, the core opens the pilot orifice, relieving pressure from the diaphragm or piston. Line pressure, alone, opens the valve by lifting the diaphragm or piston off the main orifice.

**2-Way/2 Position Valves Flow Diagrams**



Shaded area shows the gas that is vented upon activation.



Engineering a Cleaner Environment.

## EMISSION CONTROL DEVICES (ECD)

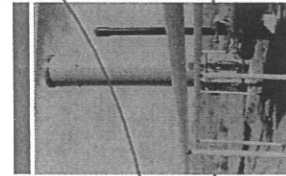
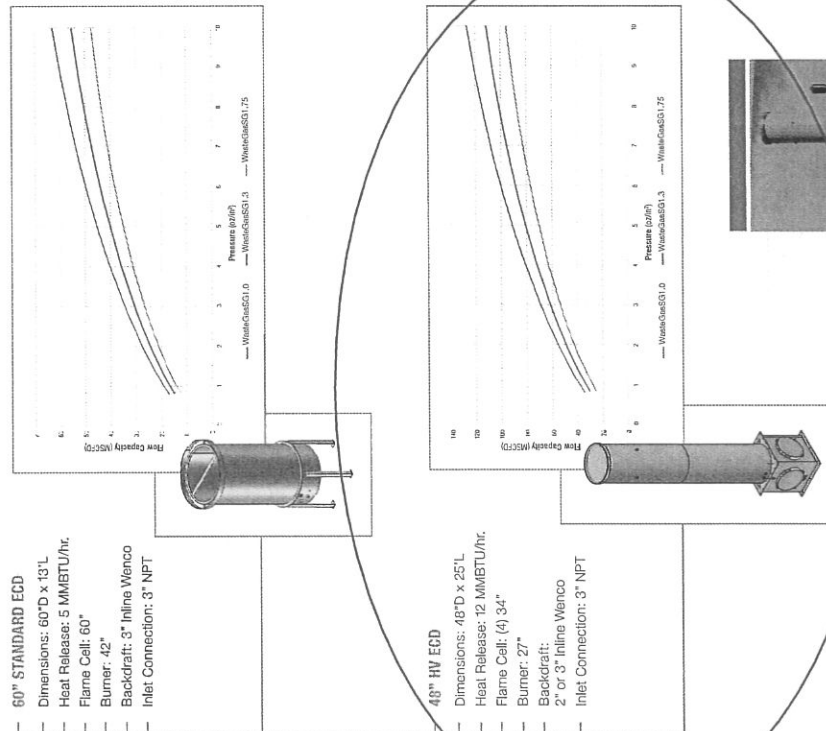
As a company committed to both environmental safety and client satisfaction, Cimarron is proud to offer its Storage Tank VOC Emission Control Devices (ECD). Pioneered in Colorado prior to the state becoming one of the first in the nation to implement stringent emission cutting rules, Cimarron's ECDs are designed to capture and combust VOC emissions from the oil/condensate production tanks. These enclosed combustor units provide a clean, safe, and efficient solution for eliminating hazardous vapors and ensuring regulatory compliance. More importantly, their performance has been proven to exceed the EPA's strict requirements with a 99% destruction rate.

Designed for both low volume and high volume applications, Cimarron flares are enclosed for maximum safety benefits. In addition, the units are both easy to install and user friendly – offering reliable operations and low-maintenance care.

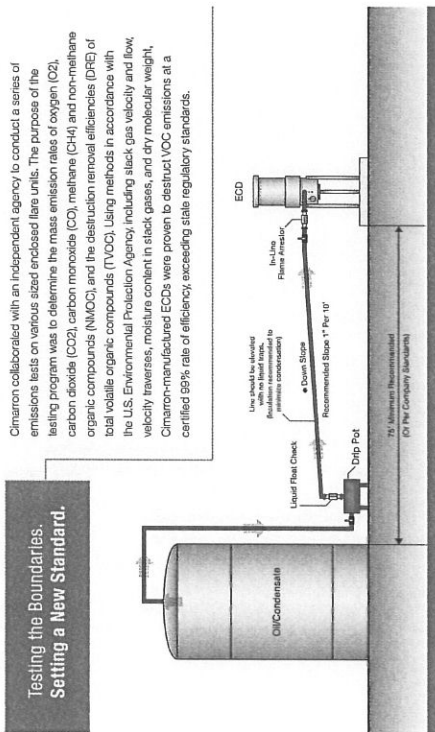
- Certified to reduce emissions up to 99%
- Designed for low- and high-volume applications
- Safe and reliable operations
- User friendly and easy to install
- Available with automation and data logging

To learn more about Cimarron's Emission Control Devices call **877.928.9922** or visit **www.cimarron.com**.

**CIMARRON**  
Driving Innovation. Producing Excellence.  
[www.cimarron.com](http://www.cimarron.com)

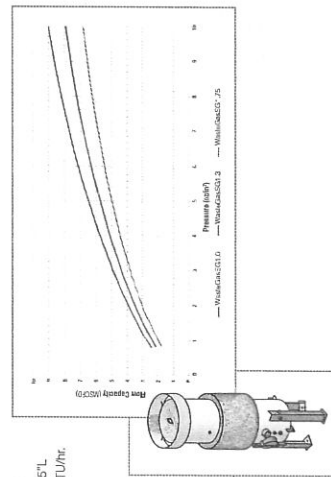


**CIMARRON**  
P.O. Box 722110 • Norman, OK 73070 • 405.928.7373 • [www.cimarron.com](http://www.cimarron.com)



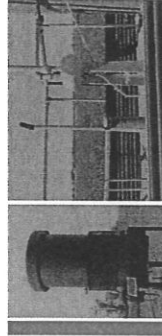
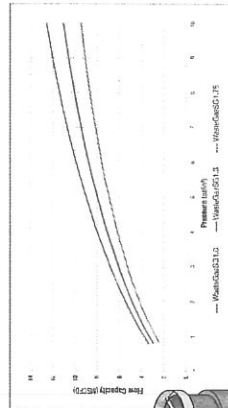
## SPECIFICATIONS & FLOW CAPACITY

**24" STANDARD ECD**  
Dimensions: 24"D x 8'5"L  
Heat Release: .7 MMBTU/hr.  
Flame Cell: 24"  
Burner: 16"  
Backdraft:  
2" Inline Wenco  
Inlet Connection:  
2" NPT



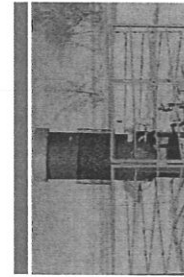
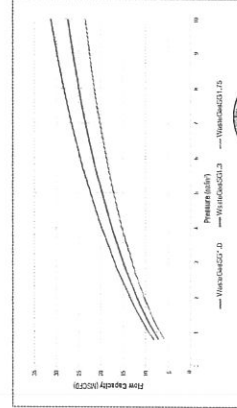
### 30" STANDARD ECD

Dimensions: 30"D x 8'5"L  
Heat Release: 1 MMBTU/hr.  
Flame Cell: 30"  
Burner: 25"  
Backdraft:  
2" or 3" Inline Wenco  
Inlet Connection:  
3" NPT



### 48" STANDARD ECD

Dimensions: 48"D x 12'L  
Heat Release: 2 MMBTU/hr.  
Flame Cell: 48"  
Burner: 34"  
Backdraft: 2" or 3" Inline Wenco  
Inlet Connection: 3" NPT





Air Quality Division

New Source Review Permit Application Form Cover Sheet

Is this a revision to an existing application?

Yes \_\_\_\_\_ No ☒ X

Date of Application: 6/12/2015

Previous Application #: \_\_\_\_\_

**COMPANY INFORMATION:**

Company Name: Yates Petroleum Corporation  
Address: P.O. Box 2560, 408 Frontage Road  
City: Gillette State: Wyoming Zip Code: 82717  
Country: USA Phone Number: 307-682-4638

**FACILITY INFORMATION:**

Facility Name: Justin Com 1TH  
New Facility or Existing Facility: ☒ New  
Facility Description: Oil and Gas Production Facility  
Facility Class: Minor Operating Status: Operating  
Facility Type: Production Site

**For Oil & Gas Production Sites ONLY:**

First Date of Production (FDOP)/Date of Modification: 3/30/2015  
Single well or multiple well facility? Single  
Does production at this facility contain H2S? No

*\*If yes, contact the Division.*

API Number(s): 49-005-62315  
NAICS Code: 2111 Oil and Gas Extraction

**FACILITY LOCATION:**

*\*Enter the facility location in either the latitude/longitude area or section/township/range area. Both are not required.*

Physical Address: \_\_\_\_\_  
City: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
State: WY County: \_\_\_\_\_

**OR**

Latitude: 43.647684 Longitude: -105.582992 County: Campbell  
Quarter Quarter: NW Quarter: NW  
Section: 1 Township: 42N Range: 73W

*For longitude and latitude, use NAD 83/WGS84 datum and 5 digits after the decimal (i.e. 41.12345, -107.56789)*

**CONTACT INFORMATION:**

*\*Note that an Environmental AND NSR Permitting Contact is required for your application to be deemed complete by the agency.*

Title: Mr. First Name: Tim  
Last Name: Barber  
Company Name: Yates Petroleum Corporation  
Job Title: Rockies Division Regulatory Manager  
Address: P.O. Box 2560, 408 Frontage Road  
City: Gillette State: Wyoming  
Zip Code: 82717  
Primary Phone No.: 307-682-4638 E-mail: tbarber@yatespetroleum.com  
Mobile Phone No.: \_\_\_\_\_ Fax No.: 307-682-4641  
Contact Type: Environmental contact Start Date: \_\_\_\_\_

*\*Name of the contact to whom the permit will be issued:* \_\_\_\_\_

Additional Contact Type (if needed): Environmental contact  
Title: Mr. First Name: Tim  
Last Name: Barber  
Company Name: Yates Petroleum Corporation  
Job Title: Rockies Division Regulatory Manager  
Address: P.O. Box 2560, 408 Frontage Road  
City: Gillette State: Wyoming  
Zip Code: 82717  
Primary Phone No.: 307-682-4638 E-mail: tbarber@yatespetroleum.com  
Mobile Phone No.: 307-682-4641 Fax No.: 307-682-4641  
Contact Type: Environmental contact Start Date: \_\_\_\_\_

**FACILITY APPLICATION INFORMATION:**

**General Info:**

Has the facility changed location or is it a new/ greenfield facility?

Yes

Has a Land Use Planning document been included in this application?

No

Is the facility located in a sage grouse core area?\*

No

If the facility is in a sage grouse core area, what is the WER number?

*\* For questions about sage grouse core area, contact WY Game & Fish Department.*

**Federal Rules Applicability - Facility Level:**

Prevention of Significant Deterioration (PSD):

No

Non-Attainment New Source Review:

No

**Modeling Section:**

Has the Air Quality Division been contacted to determine if modeling is required?

No

Is a modeling analysis part of this application?

No

Is the proposed project subject to Prevention of Significant Deterioration (PSD) requirements?

No

Has the Air Quality Division been notified to schedule a pre-application meeting?

No

Has a modeling protocol been submitted to and approved by the Air Quality Division?

No

Has the Air Quality Division received a Q/D analysis to submit to the respective FLMs to determine the need for an AQRV analysis?

No

**Required Attachments:**

Facility Map ☐  
Process Flow Diagram ☒  
Modeling Analysis (if applicable) ☐  
Land Use Planning Document ☐  
Detailed Project Description ☒  
Emissions Calculations ☒

I, Tim Barber  
Responsible Official (Printed Name)

Rockies Division Regulatory Manager  
Title

an Official Representative of the Company, state that I have knowledge of the facts herein set forth and that the same are true and correct to the best of my knowledge and belief. I further certify that the operational information provided and emission rates listed on this application reflect the anticipated emissions due to the operation of this facility. The facility will operate in compliance with all applicable Wyoming Air Quality Standards and Regulations.

Signature: \_\_\_\_\_

(ink)

Page

Date: 6-24-2015

**ORIGINAL**

**Specific Emission Unit Attributes:**

**Heater/Chiller**

Company Equipment ID: 0.5 MMBTU/HR Indirect Heater  
Company Equipment Description: 0.5 MMBTU/HR Indirect Heater

Operating Status: Operating  
Initial Construction Commencement Date: \_\_\_\_\_  
Initial Operation Commencement Date: 3/30/2015  
Most Recent Construction/ Modification Commencement Date: \_\_\_\_\_

Most Recent Operation Commencement Date: \_\_\_\_\_  
**Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):**

Reason: Construction (Greenfield/New Facility)

If reason is **Reconstruction** or **Temporary Permit** or **Other**, please explain below:

Firing Type: Indirect  
Heat Input Rating: 0.5 Units: MMBtu/hr  
Primary Fuel Type: Field Gas  
Secondary Fuel Type: N/A  
Heat Content of Fuel: 1853 Units: BTU/scf  
Fuel Sulfur Content: 0 Units: \_\_\_\_\_

**SCC Codes:** List all Source Classification Code(s) (SCC) that describe the process(es) performed by the emission source (e.g., 1-02-002-04).

31000107

**Potential Operating Schedule:** Provide the operating schedule for this emission unit.  
Hours/day: 24  
Hours/year: 8760

Control Equipment:

*If yes, please fill out and attach the appropriate Control Device and Release Point Information worksheets.*

**Best Available Control Technology (BACT):** Was a BACT Analysis completed for this emission unit?

☐ Yes ☒ No

Pollutant: \_\_\_\_\_

Proposed BACT: \_\_\_\_\_

\*If yes, attach BACT Analysis with this application.

**Lowest Achievable Emission Rate (LAER):** Was a LAER Analysis completed for this emission unit?

☐ Yes ☒ No

Pollutant: \_\_\_\_\_

Proposed LAER: \_\_\_\_\_

\*If yes, attach LAER Analysis with this application.

**Federal and State Rule Applicability:**

New Source Performance Standards (NSPS):

*New Source Performance Standard are listed under 40 CFR 60-  
Standards of Performance for New Stationary Sources.*

NSPS Subpart: 0000

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61):

*National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR  
61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).*

Part 61 NESHAP Subpart: \_\_\_\_\_

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63):

*National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)  
standards are listed under 40 CFR 63*

Part 63 NESHAP Subpart: \_\_\_\_\_

Prevention of Significant Deterioration (PSD):

*These rules are found under WAQSR Chapter 6, Section 4.*

Non-Attainment New Source Review:

*These rules are found under WAQSR Chapter 6, Section 13.*

**Specific Emission Unit Attributes:**

**Separator/Treater**

Company Equipment ID: 2-Phase Separator  
Company Equipment Description: 2-Phase Separator

Operating Status: Operating  
Initial Construction Commencement Date: \_\_\_\_\_  
Initial Operation Commencement Date: 3/30/2015  
Most Recent Construction/ Modification  
Commencement Date: \_\_\_\_\_

Most Recent Operation Commencement Date: \_\_\_\_\_  
**Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):**

Reason: Construction (Greenfield/New Facility)

If reason is **Reconstruction** or **Temporary Permit** or **Other**, please explain below:

Type of Vessel: 2-Phase Separator Is Vessel Heated? No  
Operating Temperature (F): 80  
Operating Pressure (psig): 300

**SCC Codes:** List all Source Classification Code(s) (SCC) that describe the process(es) performed by the emission source (e.g., 1-02-002-04).

31000107

**Potential Operating Schedule:** Provide the operating schedule for this emission unit.

Hours/day: 24  
Hours/year: 8760

Control Equipment:

*If yes, please fill out and attach the appropriate Control Device and Release Point Information worksheets.*

**Best Available Control Technology (BACT):** Was a BACT Analysis completed for this emission unit?

☐ Yes ☒ No

Pollutant: \_\_\_\_\_

Proposed BACT: \_\_\_\_\_

\*If yes, attach BACT Analysis with this application.

**Lowest Achievable Emission Rate (LAER):** Was a LAER Analysis completed for this emission unit?

☐ Yes ☒ No

Pollutant: \_\_\_\_\_

Proposed LAER: \_\_\_\_\_

\*If yes, attach LAER Analysis with this application.

**Federal and State Rule Applicability:**

New Source Performance Standards (NSPS):

*New Source Performance Standard are listed under 40 CFR 60-  
Standards of Performance for New Stationary Sources.*

NSPS Subpart: 0000

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61):

*National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).*

Part 61 NESHAP Subpart: \_\_\_\_\_

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63):

*National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63*

Part 63 NESHAP Subpart: \_\_\_\_\_

Prevention of Significant Deterioration (PSD):

*These rules are found under WAQSR Chapter 6, Section 4.*

Non-Attainment New Source Review:

*These rules are found under WAQSR Chapter 6, Section 13.*

**Specific Emission Unit Attributes:**

**Separator/Treater**

Company Equipment ID: Treater  
Company Equipment Description: Treater

Operating Status: Operating  
Initial Construction Commencement Date: \_\_\_\_\_  
Initial Operation Commencement Date: 3/30/2015  
Most Recent Construction/ Modification  
Commencement Date: \_\_\_\_\_

Most Recent Operation Commencement Date: \_\_\_\_\_

**Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):**

Reason: Construction (Greenfield/New Facility)

If reason is **Reconstruction** or **Temporary Permit** or **Other**, please explain below:

Type of Vessel: Heater-Treater Is Vessel Heated? Yes  
Operating Temperature (F): 120  
Operating Pressure (psig): 45

**SCC Codes:** List all Source Classification Code(s) (SCC) that describe the process(es) performed by the emission source (e.g., 1-02-002-04).

31000107

**Potential Operating Schedule:** Provide the operating schedule for this emission unit.

Hours/day: 24  
Hours/year: 8760

Control Equipment:

*If yes, please fill out and attach the appropriate Control Device and Release Point Information worksheets.*

**Best Available Control Technology (BACT):** Was a BACT Analysis completed for this emission unit?

☐ Yes ☒ No

Pollutant: \_\_\_\_\_

Proposed BACT: \_\_\_\_\_

\*If yes, attach BACT Analysis with this application.

**Lowest Achievable Emission Rate (LAER):** Was a LAER Analysis completed for this emission unit?

☐ Yes ☒ No

Pollutant: \_\_\_\_\_

Proposed LAER: \_\_\_\_\_

\*If yes, attach LAER Analysis with this application.

**Federal and State Rule Applicability:**

New Source Performance Standards (NSPS):

*New Source Performance Standard are listed under 40 CFR 60-  
Standards of Performance for New Stationary Sources.*

NSPS Subpart: 0000

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61):

*National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).*

Part 61 NESHAP Subpart: \_\_\_\_\_

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63):

*National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63*

Part 63 NESHAP Subpart: \_\_\_\_\_

Prevention of Significant Deterioration (PSD):

*These rules are found under WAQSR Chapter 6, Section 4.*

Non-Attainment New Source Review:

*These rules are found under WAQSR Chapter 6, Section 13.*

**Specific Emission Unit Attributes:**

**Heater/Chiller**

Company Equipment ID: 1.0 MMBTU/HR Treater Burner  
Company Equipment Description: 1.0 MMBTU/HR Treater Burner

Operating Status: Operating  
Initial Construction Commencement Date: \_\_\_\_\_  
Initial Operation Commencement Date: 3/30/2015  
Most Recent Construction/ Modification  
Commencement Date: \_\_\_\_\_

Most Recent Operation Commencement Date: \_\_\_\_\_  
**Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):**

Reason: Construction (Greenfield/New Facility)

If reason is **Reconstruction** or **Temporary Permit** or **Other**, please explain below:

Firing Type: Indirect  
Heat Input Rating: 1 Units: MMBtu/hr  
Primary Fuel Type: Field Gas  
Secondary Fuel Type: N/A  
Heat Content of Fuel: 1853 Units: BTU/scf  
Fuel Sulfur Content: 0 Units: \_\_\_\_\_

**SCC Codes:** List all Source Classification Code(s) (SCC) that describe the process(es) performed by the emission source (e.g., 1-02-002-04).

31000107

**Potential Operating Schedule:** Provide the operating schedule for this emission unit.  
Hours/day: 24  
Hours/year: 8760

Control Equipment:

*If yes, please fill out and attach the appropriate Control Device and Release Point Information worksheets.*

**Best Available Control Technology (BACT):** Was a BACT Analysis completed for this emission unit?

☐ Yes ☒ No

Pollutant: \_\_\_\_\_

Proposed BACT: \_\_\_\_\_

\*If yes, attach BACT Analysis with this application.

**Lowest Achievable Emission Rate (LAER):** Was a LAER Analysis completed for this emission unit?

☐ Yes ☒ No

Pollutant: \_\_\_\_\_

Proposed LAER: \_\_\_\_\_

\*If yes, attach LAER Analysis with this application.

**Federal and State Rule Applicability:**

New Source Performance Standards (NSPS):

*New Source Performance Standard are listed under 40 CFR 60-  
Standards of Performance for New Stationary Sources.*

NSPS Subpart: 0000

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61):

*National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).*

Part 61 NESHAP Subpart: \_\_\_\_\_

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63):

*National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63*

Part 63 NESHAP Subpart: \_\_\_\_\_

Prevention of Significant Deterioration (PSD):

*These rules are found under WAQSR Chapter 6, Section 4.*

Non-Attainment New Source Review:

*These rules are found under WAQSR Chapter 6, Section 13.*

**Specific Emission Unit Attributes:**

**Storage Tank/Silo**

Company Equipment ID: Oil Tanks  
Company Equipment Description: 5 400-BBL Oil Tanks

Operating Status: Operating  
Initial Construction Commencement Date: \_\_\_\_\_  
Initial Operation Commencement Date: 3/30/2015  
Most Recent Construction/ Modification  
Commencement Date: \_\_\_\_\_

Most Recent Operation Commencement Date: \_\_\_\_\_  
**Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):**

Reason: Construction (Greenfield/New Facility)

If reason is **Reconstruction** or **Temporary Permit** or **Other**, please explain below:

Material Type: Liquid  
Description of Material Stored: 46 Deg API Crude Oil  
Capacity: 2000 Units: barrels  
Maximum Throughput: 412 Units: barrels/day  
Maximum Hourly Throughput: 20 Units: barrels/hr  
Operating Pressure (psig): 0  
Vapor Pressure of Material Stored (psig): 3.6  
Is Tank Heated?: No

**SCC Codes:** List all Source Classification Code(s) (SCC) that describe the process(es) performed by the emission source (e.g., 1-02-002-04).

40400312

**Potential Operating Schedule:** Provide the operating schedule for this emission unit.

Hours/day: 24  
Hours/year: 8760

Control Equipment:

If yes, please fill out and attach the appropriate Control Device and Release Point Information worksheets.

Best Available Control Technology (BACT): Was a BACT Analysis completed for this emission unit?

☐ Yes ☒ No

Pollutant: \_\_\_\_\_

Proposed BACT: \_\_\_\_\_

\*If yes, attach BACT Analysis with this application.

Lowest Achievable Emission Rate (LAER): Was a LAER Analysis completed for this emission unit?

☐ Yes ☒ No

Pollutant: \_\_\_\_\_

Proposed LAER: \_\_\_\_\_

\*If yes, attach LAER Analysis with this application.

**Federal and State Rule Applicability:**

New Source Performance Standards (NSPS):

*New Source Performance Standard are listed under 40 CFR 60-  
Standards of Performance for New Stationary Sources.*

NSPS Subpart: 0000

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61):

*National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).*

Part 61 NESHAP Subpart: \_\_\_\_\_

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63):

*National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63*

Part 63 NESHAP Subpart: \_\_\_\_\_

Prevention of Significant Deterioration (PSD):

*These rules are found under WAQSR Chapter 6, Section 4.*

Non-Attainment New Source Review:

*These rules are found under WAQSR Chapter 6, Section 13.*

**Specific Emission Unit Attributes:**

**Storage Tank/Silo**

Company Equipment ID: Water Tank  
Company Equipment Description: 400-BBL Produced Water Tank

Operating Status: Operating  
Initial Construction Commencement Date: \_\_\_\_\_  
Initial Operation Commencement Date: 3/30/2015  
Most Recent Construction/ Modification  
Commencement Date: \_\_\_\_\_

Most Recent Operation Commencement Date: \_\_\_\_\_  
**Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):**

Reason: Construction (Greenfield/New Facility)

If reason is **Reconstruction** or **Temporary Permit** or **Other**, please explain below:

Material Type: Liquid  
Description of Material Stored: Produced Water  
Capacity: 400 Units: barrels  
Maximum Throughput: 200 Units: barrels/day  
Maximum Hourly Throughput: 21 Units: barrels/hr  
Operating Pressure (psig): 0  
Vapor Pressure of Material Stored (psig): 0.178  
Is Tank Heated?: No

**SCC Codes:** List all Source Classification Code(s) (SCC) that describe the process(es) performed by the emission source (e.g., 1-02-002-04).

40400312

**Potential Operating Schedule:** Provide the operating schedule for this emission unit.

Hours/day: 24  
Hours/year: 8760

Control Equipment:

*If yes, please fill out and attach the appropriate Control Device and Release Point Information worksheets.*

**Best Available Control Technology (BACT):** Was a BACT Analysis completed for this emission unit?

☐ Yes ☒ No

Pollutant: \_\_\_\_\_

Proposed BACT: \_\_\_\_\_

\*If yes, attach BACT Analysis with this application.

**Lowest Achievable Emission Rate (LAER):** Was a LAER Analysis completed for this emission unit?

☐ Yes ☒ No

Pollutant: \_\_\_\_\_

Proposed LAER: \_\_\_\_\_

\*If yes, attach LAER Analysis with this application.

**Federal and State Rule Applicability:**

New Source Performance Standards (NSPS):

*New Source Performance Standard are listed under 40 CFR 60-  
Standards of Performance for New Stationary Sources.*

NSPS Subpart: 0000

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61):

*National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).*

Part 61 NESHAP Subpart: \_\_\_\_\_

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63):

*National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63*

Part 63 NESHAP Subpart: \_\_\_\_\_

Prevention of Significant Deterioration (PSD):

*These rules are found under WAQSR Chapter 6, Section 4.*

Non-Attainment New Source Review:

*These rules are found under WAQSR Chapter 6, Section 13.*

**Specific Emission Unit Attributes:**

**Loading/Unloading/Dump**

Company Equipment ID: Truckloading  
Company Equipment Description: Truckloading

Operating Status: Operating  
Initial Construction Commencement Date: \_\_\_\_\_  
Initial Operation Commencement Date: 3/30/2015  
Most Recent Construction/ Modification  
Commencement Date: \_\_\_\_\_

Most Recent Operation Commencement Date: \_\_\_\_\_  
**Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):**

Reason: Construction (Greenfield/New Facility)

If reason is **Reconstruction** or **Temporary Permit** or **Other**, please explain below:

Type of Material: Liquid  
Material Description: Crude Oil

Maximum Annual Throughput:	<u>150,380</u>	Units:	<u>barrels/yr</u>
Maximum Hourly Throughput:	<u>180</u>	Units:	<u>barrels/hr</u>

Detailed Description of Loading/Unloading/Dump Source: \_\_\_\_\_  
submerged loading, dedicated service from oil storage tanks to 180-BBL truck tank

**SCC Codes:** List all Source Classification Code(s) (SCC) that describe the process(es) performed by the emission source (e.g., 1-02-002-04).

40600132

**Potential Operating Schedule:** Provide the operating schedule for this emission unit.  
Hours/day: 2  
Hours/year: 835

Control Equipment:

*If yes, please fill out and attach the appropriate Control Device and Release Point Information worksheets.*

**Best Available Control Technology (BACT):** Was a BACT Analysis completed for this emission unit?

☐ Yes ☒ No

Pollutant: \_\_\_\_\_

Proposed BACT: \_\_\_\_\_

\*If yes, attach BACT Analysis with this application.

**Lowest Achievable Emission Rate (LAER):** Was a LAER Analysis completed for this emission unit?

☐ Yes ☒ No

Pollutant: \_\_\_\_\_

Proposed LAER: \_\_\_\_\_

\*If yes, attach LAER Analysis with this application.

**Federal and State Rule Applicability:**

New Source Performance Standards (NSPS):

*New Source Performance Standard are listed under 40 CFR 60-  
Standards of Performance for New Stationary Sources.*

NSPS Subpart: 0000

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61):

*National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61.  
(These include asbestos, benzene, beryllium, mercury, and vinyl chloride).*

Part 61 NESHAP Subpart: \_\_\_\_\_

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63):

*National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)  
standards are listed under 40 CFR 63*

Part 63 NESHAP Subpart: \_\_\_\_\_

Prevention of Significant Deterioration (PSD):

*These rules are found under WAQSR Chapter 6, Section 4.*

Non-Attainment New Source Review:

*These rules are found under WAQSR Chapter 6, Section 13.*

**Specific Emission Unit Attributes:**

**Pneumatic Equipment (Pumps and Controllers)**

Company Equipment ID: Kill Valve  
Company Equipment Description: Kill Valve

Operating Status: Operating  
Initial Construction Commencement Date: \_\_\_\_\_  
Initial Operation Commencement Date: 3/30/2015  
Most Recent Construction/ Modification  
Commencement Date: \_\_\_\_\_

Most Recent Operation Commencement Date: \_\_\_\_\_  
**Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):**

Reason: Construction (Greenfield/New Facility)

If reason is **Reconstruction** or **Temporary Permit** or **Other**, please explain below:

Type of Equipment: Controller Bleed/Consumption Rate (cfh): 0.0000001  
Controller Type: Intermittent  
Motive Force: Field Gas VOC Content (%): 60.478  
HAP Content (%): 0.2054

**SCC Codes:** List all Source Classification Code(s) (SCC) that describe the process(es) performed by the emission source (e.g., 1-02-002-04).

31000199

**Potential Operating Schedule:** Provide the operating schedule for this emission unit.

Hours/day: 0  
Hours/year: 0

Control Equipment:

*If yes, please fill out and attach the appropriate Control Device and Release Point Information worksheets.*

**Best Available Control Technology (BACT):** Was a BACT Analysis completed for this emission unit?

☐ Yes ☒ No

Pollutant: \_\_\_\_\_

Proposed BACT: \_\_\_\_\_

\*If yes, attach BACT Analysis with this application.

**Lowest Achievable Emission Rate (LAER):** Was a LAER Analysis completed for this emission unit?

☐ Yes ☒ No

Pollutant: \_\_\_\_\_

Proposed LAER: \_\_\_\_\_

\*If yes, attach LAER Analysis with this application.

**Federal and State Rule Applicability:**

New Source Performance Standards (NSPS):

*New Source Performance Standards are listed under 40 CFR 60-  
Standards of Performance for New Stationary Sources.*

NSPS Subpart: 0000

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61):

*National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).*

Part 61 NESHAP Subpart: \_\_\_\_\_

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63):

*National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63*

Part 63 NESHAP Subpart: \_\_\_\_\_

Prevention of Significant Deterioration (PSD):

*These rules are found under WAQSR Chapter 6, Section 4.*

Non-Attainment New Source Review:

*These rules are found under WAQSR Chapter 6, Section 13.*

**Specific Emission Unit Attributes:**

**Pneumatic Equipment (Pumps and Controllers)**

Company Equipment ID: Back Pressure Valves  
Company Equipment Description: Back Pressure Valves

Operating Status: Operating  
Initial Construction Commencement Date: \_\_\_\_\_  
Initial Operation Commencement Date: 3/30/2015  
Most Recent Construction/ Modification  
Commencement Date: \_\_\_\_\_

Most Recent Operation Commencement Date: \_\_\_\_\_  
**Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):**

Reason: Construction (Greenfield/New Facility)

If reason is **Reconstruction** or **Temporary Permit** or **Other**, please explain below:

Type of Equipment: Controller Bleed/Consumption Rate (cfh): 0.009  
Controller Type: Intermittent  
Motive Force: Field Gas VOC Content (%): 60.478  
HAP Content (%): 0.2054

**SCC Codes:** List all Source Classification Code(s) (SCC) that describe the process(es) performed by the emission source (e.g., 1-02-002-04).

31000199

**Potential Operating Schedule:** Provide the operating schedule for this emission unit.

Hours/day: 24  
Hours/year: 8760

Control Equipment:

*If yes, please fill out and attach the appropriate Control Device and Release Point Information worksheets.*

**Best Available Control Technology (BACT):** Was a BACT Analysis completed for this emission unit?

☐ Yes ☒ No

Pollutant: \_\_\_\_\_

Proposed BACT: \_\_\_\_\_

\*If yes, attach BACT Analysis with this application.

**Lowest Achievable Emission Rate (LAER):** Was a LAER Analysis completed for this emission unit?

☐ Yes ☒ No

Pollutant: \_\_\_\_\_

Proposed LAER: \_\_\_\_\_

\*If yes, attach LAER Analysis with this application.

**Federal and State Rule Applicability:**

New Source Performance Standards (NSPS):

*New Source Performance Standard are listed under 40 CFR 60-  
Standards of Performance for New Stationary Sources.*

NSPS Subpart: 0000

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61):

*National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR  
61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).*

Part 61 NESHAP Subpart: \_\_\_\_\_

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63):

*National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)  
standards are listed under 40 CFR 63*

Part 63 NESHAP Subpart: \_\_\_\_\_

Prevention of Significant Deterioration (PSD):

*These rules are found under WAQSR Chapter 6, Section 4.*

Non-Attainment New Source Review:

*These rules are found under WAQSR Chapter 6, Section 13.*

**Specific Emission Unit Attributes:**

**Pneumatic Equipment (Pumps and Controllers)**

Company Equipment ID: Gen II Level Controller  
Company Equipment Description: Gen II Level Controller

Operating Status: Operating  
Initial Construction Commencement Date: \_\_\_\_\_  
Initial Operation Commencement Date: 3/30/2015  
Most Recent Construction/ Modification  
Commencement Date: \_\_\_\_\_

Most Recent Operation Commencement Date: \_\_\_\_\_  
**Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):**

Reason: Construction (Greenfield/New Facility)

If reason is **Reconstruction** or **Temporary Permit** or **Other**, please explain below:

Type of Equipment: Controller Bleed/Consumption Rate (cfh): 0.025  
Controller Type: Intermittent  
Motive Force: Field Gas VOC Content (%): 60.478  
HAP Content (%): 0.2054

**SCC Codes:** List all Source Classification Code(s) (SCC) that describe the process(es) performed by the emission source (e.g., 1-02-002-04).

31000199

**Potential Operating Schedule:** Provide the operating schedule for this emission unit.

Hours/day: 24  
Hours/year: 8760

Control Equipment:

*If yes, please fill out and attach the appropriate Control Device and Release Point Information worksheets.*

**Best Available Control Technology (BACT):** Was a BACT Analysis completed for this emission unit?

☐ Yes ☒ No

Pollutant: \_\_\_\_\_

Proposed BACT: \_\_\_\_\_

\*If yes, attach BACT Analysis with this application.

**Lowest Achievable Emission Rate (LAER):** Was a LAER Analysis completed for this emission unit?

☐ Yes ☒ No

Pollutant: \_\_\_\_\_

Proposed LAER: \_\_\_\_\_

\*If yes, attach LAER Analysis with this application.

**Federal and State Rule Applicability:**

New Source Performance Standards (NSPS):

*New Source Performance Standard are listed under 40 CFR 60-  
Standards of Performance for New Stationary Sources.*

NSPS Subpart: 0000

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61):

*National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR  
61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).*

Part 61 NESHAP Subpart: \_\_\_\_\_

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63):

*National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)  
standards are listed under 40 CFR 63*

Part 63 NESHAP Subpart: \_\_\_\_\_

Prevention of Significant Deterioration (PSD):

*These rules are found under WAQSR Chapter 6, Section 4.*

Non-Attainment New Source Review:

*These rules are found under WAQSR Chapter 6, Section 13.*

**Specific Emission Unit Attributes:**

**Pneumatic Equipment (Pumps and Controllers)**

Company Equipment ID: Solonoids  
Company Equipment Description: Solonoids

Operating Status: Operating  
Initial Construction Commencement Date: \_\_\_\_\_  
Initial Operation Commencement Date: 3/30/2015  
Most Recent Construction/ Modification  
Commencement Date: \_\_\_\_\_

Most Recent Operation Commencement Date: \_\_\_\_\_  
**Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):**

Reason: Construction (Greenfield/New Facility)

If reason is **Reconstruction** or **Temporary Permit** or **Other**, please explain below:

Type of Equipment: Controller Bleed/Consumption Rate (cfh): 0.00001  
Controller Type: Intermittent  
Motive Force: Field Gas VOC Content (%): 60.478  
HAP Content (%): 0.2054

**SCC Codes:** List all Source Classification Code(s) (SCC) that describe the process(es) performed by the emission source (e.g., 1-02-002-04).

31000199

**Potential Operating Schedule:** Provide the operating schedule for this emission unit.

Hours/day: 24  
Hours/year: 8760

Control Equipment:

*If yes, please fill out and attach the appropriate Control Device and Release Point Information worksheets.*

**Best Available Control Technology (BACT):** Was a BACT Analysis completed for this emission unit?

☐ Yes ☒ No

Pollutant: \_\_\_\_\_

Proposed BACT: \_\_\_\_\_

\*If yes, attach BACT Analysis with this application.

**Lowest Achievable Emission Rate (LAER):** Was a LAER Analysis completed for this emission unit?

☐ Yes ☒ No

Pollutant: \_\_\_\_\_

Proposed LAER: \_\_\_\_\_

\*If yes, attach LAER Analysis with this application.

**Federal and State Rule Applicability:**

New Source Performance Standards (NSPS):

*New Source Performance Standard are listed under 40 CFR 60-  
Standards of Performance for New Stationary Sources.*

NSPS Subpart: 0000

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61):

*National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).*

Part 61 NESHAP Subpart: \_\_\_\_\_

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63):

*National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63) standards are listed under 40 CFR 63*

Part 63 NESHAP Subpart: \_\_\_\_\_

Prevention of Significant Deterioration (PSD):

*These rules are found under WAQSR Chapter 6, Section 4.*

Non-Attainment New Source Review:

*These rules are found under WAQSR Chapter 6, Section 13.*

**Specific Emission Unit Attributes:**

**Fugitives**

Company Equipment ID: Fugitives  
Company Equipment Description: Fugitives

Operating Status: Operating  
Initial Construction Commencement Date: \_\_\_\_\_  
Initial Operation Commencement Date: 3/30/2015  
Most Recent Construction/ Modification  
Commencement Date: \_\_\_\_\_

Most Recent Operation Commencement Date: \_\_\_\_\_  
**Select reason(s) for this emissions unit being included in this application (must be completed regardless of date of installation or modification):**

Reason: Construction (Greenfield/New Facility)

If reason is **Reconstruction** or **Temporary Permit** or **Other**, please explain below:

Type of Fugitive Emission: Fugitive Leaks at O&G

**SCC Codes:** List all Source Classification Code(s) (SCC) that describe the process(es) performed by the emission source (e.g., 1-02-002-04).

31000101

**Potential Operating Schedule:** Provide the operating schedule for this emission unit.

Hours/day: 24  
Hours/year: 8760

Control Equipment:

*If yes, please fill out and attach the appropriate Control Device and Release Point Information worksheets.*

**Best Available Control Technology (BACT):** Was a BACT Analysis completed for this emission unit?

☐ Yes ☒ No

Pollutant: \_\_\_\_\_

Proposed BACT: \_\_\_\_\_

\*If yes, attach BACT Analysis with this application.

**Lowest Achievable Emission Rate (LAER):** Was a LAER Analysis completed for this emission unit?

☐ Yes ☒ No

Pollutant: \_\_\_\_\_

Proposed LAER: \_\_\_\_\_

\*If yes, attach LAER Analysis with this application.

**Federal and State Rule Applicability:**

New Source Performance Standards (NSPS):

*New Source Performance Standard are listed under 40 CFR 60-  
Standards of Performance for New Stationary Sources.*

NSPS Subpart: 0000

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 61):

*National Emissions Standards for Hazardous Air Pollutants (NESHAP Part 61) are listed under 40 CFR  
61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).*

Part 61 NESHAP Subpart: \_\_\_\_\_

National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63):

*National Emission Standards for Hazardous Air Pollutants (NESHAP Part 63)  
standards are listed under 40 CFR 63*

Part 63 NESHAP Subpart: \_\_\_\_\_

Prevention of Significant Deterioration (PSD):

*These rules are found under WAQSR Chapter 6, Section 4.*

Non-Attainment New Source Review:

*These rules are found under WAQSR Chapter 6, Section 13.*

**Control Equipment:**

**Flare/Combustor**

Manufacturer: CIMMARON Date Installed: 3/28/2015  
Model Name and Number: 48" X 25' ECD Company Control  
Equipment ID: \_\_\_\_\_  
Company Control Equipment Description: Tank Vapor Combustor and Ultra Low Pressure Separator Combustor

Pollutant(s) Controlled: ☐ CO ☐ NOx ☐ Pb ☐ SO2 ☒ VOC ☐ PM  
☐ PM (FIL) ☐ PM Condensable ☐ PM 10 (FIL) ☐ PM 2.5 (FIL) ☐ PM 10 ☐ PM 2.5  
☐ Other \_\_\_\_\_

**NOTE: The following fields require numeric values unless otherwise denoted with an asterisk\***

Maximum Design Capacity (MMSCF/hr): 110 MSCFD = 0.005 MMCF/HR  
Minimum Design Capacity (MMSCF/hr): 0  
Design Control Efficiency (%): 98 Capture Efficiency (%): 100  
Operating Control Efficiency (%): 98  
Flare Type:\* Enclosed Elevated Flare Type:\* Non-Assisted  
Ignition Device:\* Yes Flame Presence Sensor:\* Yes  
Inlet Gas Temp (F): 100 Flame Presence Type:\* Thermocouple  
Gas Flow Rate (acfm): 4.2 Outlet Gas Temp (F): 1000

☒ This is the only control equipment on this air contaminant source  
If not, this control equipment is: ☐ Primary ☐ Secondary ☐ Parallel

List all other emission units that are also vented to this control equipment:\*

none

List all release point IDs associated with this control equipment:\*

none

(submit one for each emission unit)

## OIL TANKS

**Emissions Information-** The following tables request information needed to determine the applicable requirements and the compliance status of this emission unit with those requirements.

Pre-Controlled Potential Emissions (tons/yr)		Efficiency Standards		Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
	Potential to Emit (PTE)	Units				

**Criteria Pollutants:**

1.)	Particulate emissions (PE/PM) (formerly particulate matter, PM)						
2.)	PM #10 microns in diameter (PE/PM10)						
3.)	PM #2.5 microns in diameter (PE/PM2.5)						
4.)	Sulfur dioxide (SO2)						
5.)	Nitrogen Oxides (NOx)	0.00	0.411865	lb/ton of production	0.881279	3.86	AP-42
6.)	Carbon monoxide (CO)	0.00	0.03201	lb/ton of production	0.068493	0.30	AP-42
7.)	Volatile organic compounds (VOC)	193.17	0.007469	lb/ton of production	0.015982	0.07	Test results for this source
8.)	Lead (Pb)						
9.)	Total Hazardous Air Pollutants (HAPs)	3.07	0.035211	lb/ton of production	0.075342	0.33	Test results for this source
10.)	Fluoride (F)						
11.)	Hydrogen Sulfide (H2S)						
12.)	Mercury (Hg)						
13.)	Total Reduced Sulfur (TRS)						
14.)	Sulfuric Acid Mist (SAM)						

*\*Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.*

Turner oil weighs 249.29 LB/BBL

Well will produce 150,380 BBL

LB/BBL (150,380 BBL) (TON/2000 LB) = 18,744 TONS oil/yr.

LB/TON of production = X TON / 18,744 TONS (2000 LB/TON)

LB/HR = X TONS/8760 HR (2000 LB/TON)

(submit one for each emission unit)

## BURNERS

**Emissions Information-** The following tables request information needed to determine the applicable requirements and the compliance status of this emission unit with those requirements.

Efficiency Standards					
Pre-Controlled Potential Emissions (tons/yr)	Potential to Emit (PTE)	Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination

**Criteria Pollutants:**

1.)	Particulate emissions (PE/PM) (formerly particulate matter, PM)						
2.)	PM #10 microns in diameter (PE/PM10)						
3.)	PM #2.5 microns in diameter (PE/PM2.5)						
4.)	Sulfur dioxide (SO2)						
5.)	Nitrogen Oxides (NOx)	1.17	0.12484	lb/ton of production	0.267123	1.17	AP-42
6.)	Carbon monoxide (CO)	0.98	0.104567	lb/ton of production	0.223744	0.98	AP-42
7.)	Volatile organic compounds (VOC)						
8.)	Lead (Pb)						
9.)	Total Hazardous Air Pollutants (HAPs)						
10.)	Fluoride (F)						
11.)	Hydrogen Sulfide (H2S)						
12.)	Mercury (Hg)						
13.)	Total Reduced Sulfur (TRS)						
14.)	Sulfuric Acid Mist (SAM)						

*\*Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.*

Turner oil weighs 249.29 LB/BBL

Well will produce 150,380 BBL

LB/BBL (150,380 BBL) (TON/2000 LB) = 18,744 TONS oil/yr.

LB/TON of production = X TON / 18,744 TONS (2000 LB/TON)

LB/HR = X TONS/8760 HR (2000 LB/TON)

(submit one for each emission unit)

## FUGITIVES

**Emissions Information-** The following tables request information needed to determine the applicable requirements and the compliance status of this emission unit with those requirements.

Efficiency Standards		Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination
Pre-Controlled Potential Emissions (tons/yr)	Potential to Emit (PTE)				

**Criteria Pollutants:**

1.)	Particulate emissions (PE/PM) (formerly particulate matter, PM)						
2.)	PM #10 microns in diameter (PE/PM10)						
3.)	PM #2.5 microns in diameter (PE/PM2.5)						
4.)	Sulfur dioxide (SO2)						
5.)	Nitrogen Oxides (NOx)						
6.)	Carbon monoxide (CO)						
7.)	Volatile organic compounds (VOC)	2.98	0.317968	lb/ton of production	0.680365	2.98	AP-42
8.)	Lead (Pb)						
9.)	Total Hazardous Air Pollutants (HAPs)	0.01	0.001067	lb/ton of production	0.002283	0.01	AP-42
10.)	Fluoride (F)						
11.)	Hydrogen Sulfide (H2S)						
12.)	Mercury (Hg)						
13.)	Total Reduced Sulfur (TRS)						
14.)	Sulfuric Acid Mist (SAM)						

*\*Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.*

Turner oil weighs 249.29 LB/BBL

Well will produce 150,380 BBL

LB/BBL (150,380 BBL) (TON/2000 LB) = 18,744 TONS oil/yr.

LB/TON of production = X TON / 18,744 TONS (2000 LB/TON)

LB/HR = X TONS/8760 HR (2000 LB/TON)

(submit one for each emission unit)

## PNEUMATICS

**Emissions Information-** The following tables request information needed to determine the applicable requirements and the compliance status of this emission unit with those requirements.

Efficiency Standards					
Pre-Controlled Potential Emissions (tons/yr)	Potential to Emit (PTE)	Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination

**Criteria Pollutants:**

1.)	Particulate emissions (PE/PM) (formerly particulate matter, PM)						
2.)	PM #10 microns in diameter (PE/PM10)						
3.)	PM #2.5 microns in diameter (PE/PM2.5)						
4.)	Sulfur dioxide (SO2)						
5.)	Nitrogen Oxides (NOx)						
6.)	Carbon monoxide (CO)						
7.)	Volatile organic compounds (VOC)	0.01	0.001067	lb/ton of production	0.002283	0.01	Manufacturer Data
8.)	Lead (Pb)						
9.)	Total Hazardous Air Pollutants (HAPs)	0	0	lb/ton of production	0	0	Manufacturer Data
10.)	Fluoride (F)						
11.)	Hydrogen Sulfide (H2S)						
12.)	Mercury (Hg)						
13.)	Total Reduced Sulfur (TRS)						
14.)	Sulfuric Acid Mist (SAM)						

*\*Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.*

Turner oil weighs 249.29 LB/BBL

Well will produce 150,380 BBL

LB/BBL (150,380 BBL) (TON/2000 LB) = 18,744 TONS oil/yr.

LB/TON of production = X TON / 18,744 TONS (2000 LB/TON)

LB/HR = X TONS/8760 HR (2000 LB/TON)

(submit one for each emission unit)

## Truck Loading

**Emissions Information-** The following tables request information needed to determine the applicable requirements and the compliance status of this emission unit with those requirements.

Efficiency Standards					
Pre-Controlled Potential Emissions (tons/yr)	Potential to Emit (PTE)	Units	Potential to Emit (lbs/hr)	Potential to Emit (tons/yr)	Basis for Determination

**Criteria Pollutants:**

1.)	Particulate emissions (PE/PM) (formerly particulate matter, PM)						
2.)	PM #10 microns in diameter (PE/PM10)						
3.)	PM #2.5 microns in diameter (PE/PM2.5)						
4.)	Sulfur dioxide (SO2)						
5.)	Nitrogen Oxides (NOx)						
6.)	Carbon monoxide (CO)						
7.)	Volatile organic compounds (VOC)	3.66	0.390525	lb/ton of production	0.835616	3.66	AP-42
8.)	Lead (Pb)						
9.)	Total Hazardous Air Pollutants (HAPs)	0.06	0.006402	lb/ton of production	0.013699	0.06	AP-42
10.)	Fluoride (F)						
11.)	Hydrogen Sulfide (H2S)						
12.)	Mercury (Hg)						
13.)	Total Reduced Sulfur (TRS)						
14.)	Sulfuric Acid Mist (SAM)						

*\*Provide your calculations as an attachment and explain how all process variables and emissions factors were selected.*

Turner oil weighs 249.29 LB/BBL

Well will produce 150,380 BBL

LB/BBL (150,380 BBL) (TON/2000 LB) = 18,744 TONS oil/yr.

LB/TON of production = X TON / 18,744 TONS (2000 LB/TON)

LB/HR = X TONS/8760 HR (2000 LB/TON)

Complete the table below for **each** release point. Please include release point information for each emission unit. Multiple attachments may be necessary. A release point is a point at which emissions from an emission unit are released into the ambient (outside) air. List each individual release point on a separate pair of lines (release point ID and description). **For longitude and latitude, use NAD 83/WGS84 datum and 5 digits after the decimal (i.e. 41.12345, -107.56789)**

Stack Release Point Information		
Company Release Point ID:	Release Point Type:	Vertical
OIL TANKS	Release Point Latitude:	43.647684
	Release Point Longitude:	-105.582992
Company Release Point Description:	Base Elevation (ft):	5247
vapors from oil tanks routed to 48-IN by 25-FT combustor	Stack Height (ft):	25
	Stack Diameter (ft):	4
	Exit Gas Velocity (ft/s):	0.01
	Exit Gas Temp (F):	1000
	Exit Gas Flow Rate (acfm):	4.2
Company Release Point ID:	Release Point Type:	Vertical
TREATER BURNER	Release Point Latitude:	43.647684
	Release Point Longitude:	-105.582992
Company Release Point Description:	Base Elevation (ft):	5096
fumes from the combustion of natural gas exiting the burner stack	Stack Height (ft):	20
	Stack Diameter (ft):	0.83
	Exit Gas Velocity (ft/s):	0.01
	Exit Gas Temp (F):	1000
	Exit Gas Flow Rate (acfm):	10.86
Company Release Point ID:	Release Point Type:	Vertical
INDIRECT HEATER BURNER	Release Point Latitude:	43.647684
	Release Point Longitude:	-105.582992
Company Release Point Description:	Base Elevation (ft):	5096
fumes from the combustion of natural gas exiting the burner stack	Stack Height (ft):	20
	Stack Diameter (ft):	0.83
	Exit Gas Velocity (ft/s):	0.005
	Exit Gas Temp (F):	1000
	Exit Gas Flow Rate (acfm):	5.4
Company Release Point ID:	Release Point Type:	Horizontal
PNEUMATICS	Release Point Latitude:	43.647684
	Release Point Longitude:	-105.582992
Company Release Point Description:	Base Elevation (ft):	5096
12 pneumatic controllers release vapors at an average 4' height	Stack Height (ft):	4
	Stack Diameter (ft):	0.0001
	Exit Gas Velocity (ft/s):	0.1
	Exit Gas Temp (F):	80
	Exit Gas Flow Rate (acfm):	0.001

Tanks:  $ACFM = (MSCF/DAY) (1000 SCF/MCF) (DAY/24 HR) (HR/60 MIN)$

Burners:  $ACFM = (MMBTU/HR)(HR/60 MIN)(SCF/BTU)(10^6 BTU/MMBTU)$

Truckloading:  $(180 BBL/HR)(HR/60 MIN)(5.61 CF/BBL) = 16.83 ACFM$

Pneumatic vent rate:  $(400 IN^3/DAY) (FT^3/1778 IN^3)(DAY/24 HR)(HR/60 MIN) = 0.000156 FT^3/MIN$

Company Release Point ID:	Release Point Type:	Horizontal
TRUCK LOADING	Release Point Latitude:	43.647684
	Release Point Longitude:	-105.582992
Company Release Point Description:	Base Elevation (ft):	5096
vapors displaced from truck tank as oil is loaded into tank	Stack Height (ft):	12
	Stack Diameter (ft):	0.83
	Exit Gas Velocity (ft/s):	0.01
	Exit Gas Temp (F):	50
	Exit Gas Flow Rate (acfm):	16.83
Company Release Point ID:	Release Point Latitude:	43.647684
FUGITIVES	Release Point Longitude:	-105.582992
	Release Height (ft):	4
Company Release Point Description:		
Potential leaks		
Company Release Point ID:	Release Point Latitude:	
	Release Point Longitude:	
	Release Height (ft):	
Company Release Point Description:		
Company Release Point ID:	Release Point Latitude:	
	Release Point Longitude:	
	Release Height (ft):	
Company Release Point Description:		